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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/057,838	04/09/1998	ANTONY P. VAN DE VEN	5308-79DV	6831

7590 09/14/2007
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RALEIGH, NC 27627

EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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09/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/057,838

Applicant(s)

VAN DE VEN ET AL.

Examiner

Regina Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28,42,49-53 and 63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-53 is/are allowed.
- 6) ☒ Claim(s) 28,42 and 63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/16/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of newly submitted IDS filed 8/16/07, the allowability of claims 28, 42 and 63 is withdrawn.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 28, 42, 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamura (CA 2171244) in view of Tischler (US 5,661,074).

As to claim 28, Yamura discloses a pixel comprising a blue LED that emits in the blue region of the visible spectrum, a green LED that emits in the green region of the visible spectrum and adjacent the blue LED, a red LED that emits in the red region of the visible spectrum and adjacent to the blue LED and the green LED (see Figs. 2A, 4A, and page 9, lines 17-22 for example). Figs. 4A, 4B of Yamura discloses the red LED having its respective top anode contact in substantially the same plane as the anode contacts of the blue LED and the green LED (the anodes of the R, G and B LEDs are connected to a common terminal unit 14, pages 15, lines 18-23), the blue LED and the green LED having their voltage parameters matched to one another to simplify the driving thereof (page 12, lines 14-20). Fig. 4B of Yamura also discloses the pixel further comprising constant current drive means (power source, page 16, lines 4-8), a resistor (16) in circuit in series between the constant current drive means (power source) and the cathode of the red LED to compensate for the differences between the forward voltage characteristics of

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the red LED and the forward voltage characteristics of the matched blue and green LEDs (page 15, lines 20 to page 16, lines 18).

Yamura does not disclose the red LED including at least one active layer of aluminum gallium arsenide (AlGaAs), the blue LED comprises a group III nitride active layer, and the green LED comprises a group III nitride active layer. However, Tischler teaches it is well known in the art that red LED including at least one active layer of AlGaAs (col. 1, line 66), and the blue and green LEDs comprise a group III nitride active layer (col. 1, lines 13-15, and col. 2, lines 18-47). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the R, G and B LEDs of Yamura to comprise the components as taught by Tischler for “leading to devices with fewer defects and thus higher efficiencies and longer lifetimes” (col. 3, lines 60-61 of Tischler) and to “provide bright green-blue to ultraviolet light emitting devices with high optical efficiency, lone lifetime, and a simple fabrication process” (col. 4, lines 28-31 of Tischler).

As to claims 42 and 63, note the discussion of claim 28 above. Furthermore, Tischler teaches the blue LED and green LED comprising a silicon carbide substrate (col. 1, lines 12-15).

Allowable Subject Matter

4. Claims 49-53 are allowed.

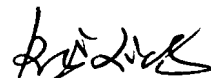
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Regina Liang
Primary Examiner
Art Unit 2674

9/9/07

09057838-040998

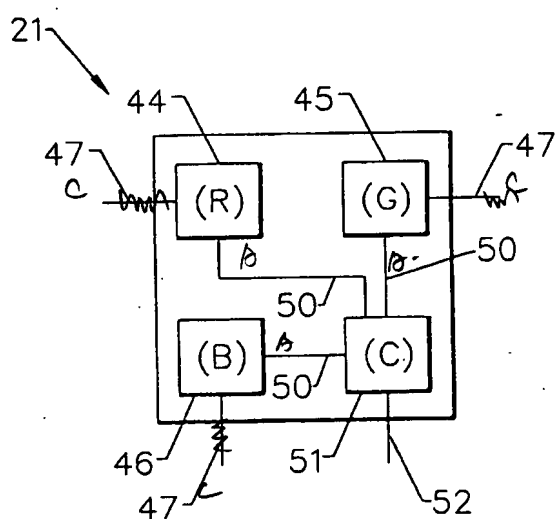


FIG. 5.